

AMENDMENT TO THE CLAIMS

Please amend the claims as follows:

1. (Original) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam having a lower flange, an upper flange, and a web therebetween;
the beam being welded orthogonal to the first flange of the column; and
a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the lower flange of the beam and adjacent to the first flange of the column.

2. (Original) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam having a first flange, a second flange, and a web therebetween;
the beam being welded orthogonal to the first flange of the column;
a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the first flange of the beam and adjacent to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the second flange of the beam and adjacent to the first flange of the column.

3. (Currently Amended) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam having a lower flange, an upper flange, and a web therebetween;
the beam being welded orthogonal to the first flange of the column; and
a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the lower flange of the beam and adjacent to the first flange of the column; and

~~The framework of claims 1 or 2 wherein~~ the beam web and beam flange separation comprises a slot that is tapered from a first relatively ~~wide~~ narrow slot width near the column and beam interface to a second relatively ~~narrow~~ wide slot width near the opposite end of the slot and ~~narrower~~ wider than the first slot width.

4. (Currently Amended) The framework of ~~any~~ claims ~~1-3~~ 1 or 2 wherein the end of the slot away from the column terminates with a circular radius equal to one half the width of

the end of the slot.

5. (Canceled)

6. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a first flange, a second flange, and a web therebetween;

the beam being welded orthogonal to the first flange of the column;

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the first flange of the beam and adjacent to the first flange of the column;

a separation of the beam flange from the beam web equal to or greater than 3.0 times the beam flange thickness in length in the beam positioned adjacent to the second flange of the beam and adjacent to the first flange of the column; and

the beam web and beam flange separation comprises a slot that is tapered from a first relatively narrow slot width near the column and beam interface to a second relatively wide slot width near the opposite end of the slot and wider than the first slot width.

7. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column and the beam web welded to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the lower flange of the beam and adjacent to the first flange of the column.

8. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts; and

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the lower flange of the beam and adjacent to the first flange of the column.

9. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column and the beam web welded to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the first flange of the beam and adjacent to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the second flange of the beam and adjacent to the first flange of the column.

10. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the first flange of the beam and adjacent to the first flange of the column; and

a separation of the beam flange from the beam web equal to or greater than 2.0 times the beam flange thickness in length in the beam positioned adjacent to the second flange of the beam and adjacent to the first flange of the column.

11. (New) The steel framework of any of claims 7, 8, 9 and 10 wherein:

the separation of the beam flange from the beam web comprises a slot that is tapered from a first relatively narrow slot width near the column and beam interface to a second relatively wide slot width near the opposite end of the slot and wider than the first slot width.

12. (New) The steel framework of any of claims 7, 8, 9 and 10 wherein:

the end most distal from the column of at least one slot terminates with a circular radius equal to one-half the width of the slot at a distance equal to one radius from the end of the slot.

13. (New) A steel framework comprising:

- a steel column having a first flange, a second flange, and a web therebetween;
- a steel beam having a lower flange, an upper flange, and a web therebetween;
- the beam flanges being welded orthogonal to the first flange of the column;
- the beam web welded to a shear plate;
- the shear plate welded to the first flange of the column; and
- a separation of the column web from the first flange of the column positioned adjacent said first flange having a length equal to or greater than 2.0 times the beam flange thickness.

14. (New) A steel framework comprising:

- a steel column having a first flange, a second flange, and a web therebetween;
- a steel beam having a lower flange, an upper flange, and a web therebetween;
- the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to a shear plate;
the shear plate bolted to the first flange of the column; and
a separation of the column web from the first flange of the column positioned adjacent said first flange having a length equal to or greater than 2.0 times the beam flange thickness.

15. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam having a lower flange, an upper flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web bolted to a shear plate;
the shear plate welded to the first flange of the column; and
a separation of the column web from the first flange of the column positioned adjacent said first flange having a length equal to or greater than 2.0 times the beam flange thickness.

16. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a lower flange, an upper flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web bolted to a shear plate;
the shear plate bolted to the first flange of the column; and
a separation of the column web from the first flange of the column positioned adjacent said first flange having a length equal to or greater than 2.0 times the beam flange thickness.

17. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web welded to the first flange of the column;
at least one slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column; and
a slot in the column web positioned adjacent to the first flange of the column and the beam flange nearest said at least one slot in the beam web.

18. (New) A steel framework comprising:

- a steel column having a first flange, a second flange, and a web therebetween;
- a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;
- the beam flanges being welded orthogonal to the first flange of the column;
- the beam web connected to the first flange of the column by means of bolts;
- at least one slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column; and
- a slot in the column web positioned adjacent to the first flange of the column and the beam flange nearest said at least one slot in the beam web.

19. (New) A steel framework comprising:

- a steel column having a first flange, a second flange, and a web therebetween;
- a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;
- the beam flanges being welded orthogonal to the first flange of the column;
- the beam web welded to the first flange of the column;

a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column; and

a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column.

20. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column; and

a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column.

21. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a first flange, a second flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web welded to the first flange of the column;
a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;
a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column; and
a slot in the column web positioned adjacent to the first flange of the column and the beam flange nearest to the first slot in the beam web.

22. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web connected to the first flange of the column by means of bolts;
a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;

a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column; and

a slot in the column web positioned adjacent to the first flange of the column and the beam flange nearest to the first slot in the beam web.

23. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a slot in the beam web positioned adjacent to the lower flange of the beam and the first flange of the column; and

a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

24. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a slot in the beam web positioned adjacent to the lower flange of the beam and the first flange of the column; and

a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

25. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;

a slot in the column web positioned adjacent to the first flange of the column and the first flange of the beam; and

a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

26. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam having a lower flange, an upper flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web connected to the first flange of the column by means of bolts;
a slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;
a slot in the column web positioned adjacent to the first flange of the column and the first flange of the beam; and
a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

27. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web,therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;

a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column; and

a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

28. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a first slot in the beam web positioned adjacent to the first flange of the beam and the first flange of the column;

a second slot in the beam web positioned adjacent to the second flange of the beam and the first flange of the column; and

a continuity plate extending between the first and second column flanges and being coplanar with a beam flange.

29. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, a web therebetween, and having a longitudinal axis;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a slot in the beam web positioned adjacent to the lower flange of the beam and the first flange of the column; and

a shear plate welded to the beam perpendicular to the longitudinal axis of the beam extending between the upper and lower beam flanges.

30. (New) A steel framework comprising:

- a steel column having a first flange, a second flange, and a web therebetween;
- a steel beam including at least one weld access hole having a lower flange, an upper flange, a web therebetween, and having a longitudinal axis;
- the beam flanges being welded orthogonal to the first flange of the column;
- the beam web connected to the first flange of the column by means of bolts;
- a slot in the beam web positioned adjacent to the lower flange of the beam and the first flange of the column; and
- a shear plate welded to the beam perpendicular to the longitudinal axis of the beam extending between the upper and lower beam flanges.

31. (New) The steel framework of claim 1 further including:

- the slot in the beam web having a width, a thickness and a length dimension;
- the thickness of the slot in the beam web being parallel to and equal to the thickness of the beam web;
- the width of the slot in the beam web being tapered from a first width at a first end near the first column flange to a second width at a second end;

each end of the slot being a round hole having a minimum diameter equal to or greater than the width of the slot.

32. (New) A steel framework structure comprising:

a column having a pair of parallel flanges connected along their lengthwise centerlines by a web disposed perpendicular to said flanges;

a beam having a pair of flanges, a web, and at least one weld access hole;

said beam having an end joined to an outer flange surface of said column to form a connection;

means for uniformly distributing stress and strain across the end of said beam near said connection; and

wherein said stress and strain distributing means increases the mean time between failures of said connection.

33. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;
a slot penetrating through the beam and circumferentially bounded entirely by the beam web.

34. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;
the beam flanges and web being welded orthogonal to the first flange of the column;
a slot formed in the beam having a first end, a second end, and a length dimension extending between said slot first end and said slot second end;
said slot is formed with the slot first end closer to the first flange of the column than is the slot second end;
said slot is formed in the beam web closer to the upper beam flange than to the lower beam flange.

35. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a slot formed in the beam having a first end, a second end, and a length dimension extending between said slot first end and said slot second end;

said slot is formed with the slot first end closer to the first flange of the column than is the slot second end;

said slot is formed in the beam web closer to the upper beam flange than to the lower beam flange.

36. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a slot formed in the beam web adjacent to the lower flange of the beam and separated by a predetermined distance from the first flange of the column.

37. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a slot formed in the beam web adjacent to the lower flange of the beam and separated by a predetermined distance from the first flange of the column.

38. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

a slot formed in the beam web adjacent to the first flange of the beam and to the first flange of the column;

a slot formed in the column web adjacent to the first flange of the column and to the first flange of the beam.

39. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web welded to the first flange of the column;
a first slot penetrating the beam web formed adjacent to the first flange of the beam and to the first flange of the column; and
a second slot penetrating the beam web formed adjacent to the second flange of the beam but not adjacent to the first flange of the column.

40. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;
the beam web connected to the first flange of the column by means of bolts;
a first slot penetrating the beam web formed adjacent to the first flange of the beam
and to the first flange of the column; and
a second slot penetrating the beam web formed adjacent to the second flange of the
beam but not adjacent to the first flange of the column.

41. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;
a steel beam including at least one weld access hole having a first flange, a second
flange, and a web therebetween;
the beam flanges being welded orthogonal to the first flange of the column;
the beam web welded to the first flange of the column;
a first slot formed in the beam web adjacent to the first flange of the beam but not
adjacent to the first flange of the column;
a second slot formed in the beam web adjacent to the second flange of the beam and in
the proximity of but not adjacent to the first flange of the column; and

a continuity plate extending between the first column flange and the second column flange and being coplanar with a beam flange.

42. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a first flange, a second flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a first slot formed in the beam web adjacent to the first flange of the beam but not adjacent to the first flange of the column;

a second slot formed in the beam web adjacent to the second flange of the beam and in the proximity of but not adjacent to the first flange of the column; and

a continuity plate extending between the first column flange and the second column flange and being coplanar with a beam flange.

43. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web welded to the first flange of the column;

a slot formed in the beam web adjacent to the lower flange of the beam but not adjacent to the first flange of the column; and

a shear plate having a length, height and width dimension welded on the web of said beam and extending between the lower beam flange and the upper beam flange and having the width dimension extending perpendicular to the height dimension and along the web of the beam.

44. (New) A steel framework comprising:

a steel column having a first flange, a second flange, and a web therebetween;

a steel beam including at least one weld access hole having a lower flange, an upper flange, and a web therebetween;

the beam flanges being welded orthogonal to the first flange of the column;

the beam web connected to the first flange of the column by means of bolts;

a slot formed in the beam web adjacent to the lower flange of the beam but not adjacent to the first flange of the column; and

a shear plate having a length, height and width dimension welded on the web of said beam and extending between the lower beam flange and the upper beam flange and having the width dimension extending perpendicular to the height dimension and along the web of the beam.